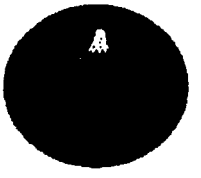
U.S. Department of Energy

Follow-up Review of the Richland Operations Office Safety System Oversight Program

Final Report

September 2005



Assessment Team

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EXECUTIVE SUMMARY

A Federal Technical Capability Panel (FTCP) team from the Department of Energy, Idaho Operations Office (DOE-ID) and the Department of Energy, Richland Operations Office (RL) reviewed the RL Safety System Oversight (SSO) Program and its implementation. The team found that RL had developed an effective SSO Program that met the requirements of DOE M 426.1-1A, *Federal Technical Capability Program Manual.* RL line management and the Assistant Manager for Safety and Engineering to whom the Safety System Oversight personnel (SSOs) reported demonstrated responsibility and ownership of the RL SSO Program and its implementation toward the safe operation of RL nuclear facilities.

Although the SSO program was substantially implemented, the SSO program recently lost three safety system oversight engineers (SSOs) and RL management had reassigned personnel to fill these SSO responsibilities. The replacements were in the process of qualification. In addition, RL recently signed an MOU with the Pacific Northwest National Laboratory (PNNL) assuming responsibility for oversight of PNNL safety systems. This MOU had not been implemented.

Several Noteworthy Practices as well as Areas of Improvement were identified.

Noteworthy Practices:

1. RL provides a web-based location where all SSO program documentation is consolidated for easy access by RL and contractor personnel. (PGM)

2. RL has demonstrated commitment to the SSO program through timely reassignment of SSO personnel following the recent loss of three SSO engineers. The new SSO personnel are actively engaged in the qualification process. (PGM)

Opportunities for Improvement:

1. Formalize the assignment of SSO engineers. This should include formally assigning personnel as SSO engineers, establishing schedules for completion of their qualification, and tracking progress toward qualification. (MG.1.2, MG.1.3, TQ.1.5)

2. Ensure that the Documented Safety Analyses establish the criteria for selection of active systems important to safety as vital safety systems subject to SSO engineer oversight. (PGM.1.3)

3. Clarify, document, and implement the expectation for SSO "stop work" authority. As expressed by the SSO Team Lead, the current RL contract with Fluor Hanford (FH) addresses "stop work" authority generally for DOE

employees. This authority does not include SSO "stop work" authority for the protection of facilities and equipment. (OP.2.8)

4. Implement Memorandum of Understanding (MOU) with the Pacific Northwest National Laboratory (PNNL) for oversight of PNNL vital safety systems. (PGM.1.3)

5. Revise the RL Hanford Federal Technical Capability Program Plan to include the SSO program. (PGM.1.1)

INTRODUCTION

In May 2004, the Department of Energy (DOE) published DOE M 426.1-1A, *Federal Technical Capability Panel Manual,* and thus institutionalized the Safety System Oversight (SSO) Program to monitor the performance of Vital Safety Systems in DOE nuclear facilities and to evaluate effectiveness of the Contractor's cognizant System Engineer Program. DOE M 426.1-1A describes the SSO function, including roles and responsibilities of SSO personnel (SSOs), and defines the knowledge, skills and abilities to be incorporated into technical qualification programs for SSOs.

In August 2004, the Department of Energy, Idaho Operations Office (ID) performed a review to evaluate progress by RL in developing and implementing a SSO program. The results were documented in a final report identifying Noteworthy Practices and Opportunities for Improvement.

The objective of this review was to evaluate implementation of the SSO program at RL and to evaluate progress in the Opportunities for Improvement identified in the 2004 Final Report. The reporting format described in DOE M 426.1-1A was used to document results of the review.

SCOPE AND METHODOLOGY

The review was performed by the ID SSO Program Manager and an ID SSO engineer. The RL SSO Team Lead and the Confinement Ventilation System (CVS) SSO provided assistance on behalf of RL in the conduct of this review. Criteria and Review Approach Documents (CRADs) developed by the Federal Technical Capabilities Panel (FTCP) were used to evaluate actions taken to define and implement the SSO Program at RL. The CRADs are provided in Attachment A of this report.

The review was performed by assessment of SSO program documents developed by RL as well as interviews with line management, SSO personnel, and contractor personnel responsible for vital safety systems (VSS). The results of document reviews and interviews are documented in the "Results" section of this report and broken out by the four CRADs functional areas: Program (PGM); Training and Qualification (TQ); Management (MG); and Oversight Performance (OP).

RECORDS REVIEWED/PERSONNEL INTERVIEWED

Documents reviewed:

1. RL SSO Program
2. RL and Contractor Vital Safety System Lists
3. RL SSO Qualification Program

4. RL SSO Qualification Standard
5. RL SSO Qualification Cards (Criticality Safety, Electrical, and Instrumentation and Control (I&C))
6. RL FY 2005 Integrated Evaluation Plan
7. RL Functions, Responsibilities, and Authorities Manual (FRAM)
8. RL Richland Integrated Management System (RIMS)
9. SSO and Team Lead Individual Performance Plans
10. SSO Supervisor Senior Technical Qualification Program (STSM) Qualification Card
11. RL Hanford Federal Technical Capability Program Plan
12. Fluor Hanford (FH) Independent Assessment Prioritization Ranking System
13. RL Operational Assessment Monitor Reports
14. Safety Analysis Report, Chapter 4, for the Canister Storage Building and the K-Basin Facility

Personnel interviewed:

1. RL Electrical/(I&C) SSO
2. RL Confinement Ventilation System (CVS) SSO
3. RL SSO Team Lead
4. RL Director of Safety and Engineering Division
5. FH Chief Engineer
6. FH Independent Assessment Team Lead
7. FH Confinement Ventilation System Subject Matter Expert
8. FH Confinement Ventilation System Engineer for the WRAP facility

RESULTS

Program (PGM)

OBJECTIVE

PGM.1 An effective SSO Program is established by the Field Element Manager to apply engineering expertise to maintain safety system configuration and to assess system condition and effectiveness of safety management program implementation.

Discussion of Results:

The RL SSO program was observed to be established and documented in the Richland Integrated Management System (RIMS). The program fully described SSO responsibilities for overseeing vital safety systems (VSS) to ensure they would perform as required by the safety basis and other applicable requirements. The SSO Program established appropriate training, qualification, and performance requirements for SSO personnel and the SSO Team Lead was held accountable for their performance. However, the SSO qualification program

had not been incorporated into the RL Hanford Federal Technical Capability Program Plan. This was identified as an **opportunity for improvement**.

In general, the safety systems and safety management programs included in the SSO Program aligned with those systems and programs identified in the applicable Documented Safety Analyses. However, the review team identified that a recent Memorandum of Understanding (MOU) between RL and the Pacific Northwest National Laboratory (PNNL) assigned SSO responsibilities for PNNL vital safety system oversight to RL. The MOU had not been implemented. An **opportunity for improvement** was identified to implement the Memorandum of Understanding (MOU), which would identify SSO responsibilities for the PNNL vital safety systems. In addition, the Documented Safety Analyses did not establish criteria for the selection of safety systems designated as important to safety as vital safety systems. This was identified as an **opportunity for improvement.**

The review team identified two **noteworthy practices** in the program area. First, RL provided a web-based location where all SSO program documentation was consolidated for easy access by RL and contractor personnel. Second, RL demonstrated commitment to the SSO program through timely reassignment of SSO personnel following recent loss of three SSO engineers. The new SSO personnel were actively engaged in the qualification process.

All other criteria in the program area had been met.

Training and Qualification (TQ)

OBJECTIVE

TQ.1 SSO personnel and supervisors with responsibilities for SSO personnel are appropriately trained and qualified, or are in the process of achieving qualification.

Discussion of Results:

The review team determined that the SSO personnel were appropriately trained and qualified or were in the process of qualification, and that the training and qualification requirements of DOE M 426.1-1A had been adequately implemented. The SSO supervisor maintained a current Senior Technical Safety Manager (STSM) qualification.

The review team determined that the assignment of SSO engineers had not been formalized and had not resulted in established qualification schedules. Also, their progress toward qualification was not tracked. This was identified as **an opportunity for improvement.**

RL had developed an SSO qualification program and standard compliant with DOE M 426.1-1A. One SSO engineer was fully qualified; several others were fully qualified on some of their systems and were currently completing qualification on their other assigned systems. The review team examined the qualification cards of two of the seven RL SSO engineers and found them to be compliant with DOE M 426.1-1A.

Management (MG)

OBJECTIVE

MG.1 SSO Supervisors effectively perform their SSO program responsibilities.

Discussion of Results:

The review team determined that the RL SSO Supervisor and Team Lead adequately implemented the supervisory requirements of DOE M 426.1-1A. The RL SSO Supervisor and Team Lead had proactively provided leadership to updating and implementing SSO program and related documents. The team reviewed these documents and appropriate evidence. One example of their commitment to the SSO program was their prompt assignment of SSO responsibilities to new individuals upon the recent loss of three SSO engineers. This was identified as a **noteworthy practice.**

Site-specific SSO qualification standards and cards had been developed and SSO personnel had been assigned. The SSO personnel were either fully qualified or were actively engaged in completing the qualification process. However, during discussions with the RL SSO Team Lead it was determined that SSO engineers had not been formally designated, qualification completion schedules had not been identified, and in most cases SSO engineers' progress toward completion of qualification had not been tracked. In one case, the SSO Engineer's Individual Performance Plan (IPP) did establish schedule goals for completion of qualification. The SSO qualification process was identified as an **opportunity for improvement.**

In accordance with the RL SSO Program, SSO personnel reported to a Senior Technical Safety Manager and regularly coordinated with the FRs to ensure operability of specific safety systems. SSOs focused on the details of safety systems and operability while FRs focused on the integrated operational aspects of these systems.

SSO program management appeared to have a self-assessment plan based on which they assessed the completeness and effectiveness of the SSO program documents. The effectiveness of program implementation did not appear to be assessed or measured. However, the review team determined that the SSO program had been adequately implemented.

Oversight Performance (OP)

OBJECTIVE

OP.1 Collectively, SSO personnel provide oversight of the Contractors' System Engineer Program.

OP.2 SSO personnel are knowledgeable and familiar with assigned safety systems and/or programs.

Discussion of Results:

The RL SSO program adequately implemented the oversight requirements of DOE M 426.1-1A. The RL SSO Program oversight of the contractor consisted of several aspects. Each SSO engineer walked down a VSS quarterly, and oversaw yearly the contractor system engineers' performance of VSS assessments and quarterly walkdowns. Also, the SSO engineers oversaw contractor independent assessment activities, and compared results of the contractor assessments and their own assessments of the same systems. The periodic SSO assessments were scheduled in advance in the Integrated Evaluation Plan (IEP) using the Master Oversight Plan (MOP, a RL Division Level document) process. The IEP represented a joint plan by both RL and the contractor for performing assessments during the fiscal year. The IEP and MOP were revisited and adjusted once each quarter in response to emerging issues and changing priorities.

DOE M 426.1-1A, Chapter III, Section 1.2.a.(8), states, "SSO personnel.....stops tasks, if required, to prevent imminent impact to the health and safety of workers and the public, to protect the environment, or to protect the facility and equipment...." As expressed by the SSO Team Lead, the current RL contract with Fluor Hanford (FH) addressed "stop work" authority generally for DOE employees. This authority did not include SSO "stop work" authority for the protection of facilities and equipment. The assessment team discussed this issue with RL SSO personnel, who felt that there was no need for SSOs to have "stop work" authority beyond what was already available to all RL employees. RL's suggested approach was to request a waiver of the requirements to DOE-EM. The review team identified this an issue to be resolved and an **opportunity for improvement.**

CONCLUSIONS AND RECOMMENDATIONS

DOE-RL (RL) has developed an effective SSO Program that meets the requirements of DOE M 426.1-1A, *Federal Technical Capability Panel Manual.* RL line management and the Office of Safety and Engineering to which the SSOs report demonstrate responsibility and ownership of the RL SSO Program and its implementation toward the safe operation of RL nuclear facilities.

Several Noteworthy Practices as well as Areas of Improvement were identified.

Noteworthy Practices:

1. RL provides a web-based location where all SSO program documentation is consolidated for easy access by RL and contractor personnel. (PGM)

2. RL has demonstrated commitment to the SSO program through timely reassignment of SSO personnel following recent loss of three SSO engineers. The new SSO personnel are actively engaged in the qualification process. (PGM)

Opportunities for Improvement:

1. Formalize the assignment of SSO engineers. This should include formally assigning personnel as SSO engineers, establishing schedules for completion of their qualification, and tracking progress toward qualification. (MG.1.2, MG.1.3, TQ.1.5)

2. Ensure that the Documented Safety Analyses establish the criteria for selection of active systems important to safety as vital safety systems subject to SSO engineer oversight. (PGM.1.3)

3. Clarify, document, and implement the expectation for SSO "stop work" authority. As expressed by the SSO Team Lead, the current RL contract with Fluor Hanford (FH) addresses "stop work" authority generally for DOE employees. This authority does not include SSO "stop task" authority for the protection of facilities and equipment. (OP.2.8)

4. Implement Memorandum of Understanding (MOU) with the Pacific Northwest National Laboratory (PNNL) for oversight of PNNL vital safety systems. (PGM.1.3)

5. Revise the RL Hanford Federal Technical Capability Program Plan to include the SSO program. (PGM.1.1)

ATTACHMENT: Safety System Oversight (SSO) Program Implementation Assessment Criteria Review and Approach Documents (CRADs)

Signatures:

-- Original signed by

Thomas I. Elias
SSO Program Manager
DOE-ID

-- Original signed by

Craig R. Enos
SSO Engineer
DOE-ID

-- Original signed by

Burton E. Hill
SSO Team Lead
DOE-RL

-- Original signed by

Mark R. Hahn
Confinement Ventilation SSO
DOE-RL

Attachment A

Criteria and Review Approach Documents (CRADs)

Safety System Oversight (SSO) Program Implementation Assessment Criteria and Review Approach Documents (CRADs)

Revision 0

PROGRAM (PGM)

OBJECTIVE

PGM.1 An effective SSO Program is established by the Field Element Manager to apply engineering expertise to maintain safety system configuration and to assess system condition and effectiveness of safety management program implementation.

Criteria

PGM.1.1 The SSO Qualification Program is part of the Technical Qualification Program (DOE M 426.1-1A, Chapter III, Section 1, 2.b (1)).

PGM.1.2 The SSO Program establishes appropriate training, qualification, and performance requirements for SSO personnel and the supervisors are held accountable for achieving them (DOE M 426.1-1A, Chapter III, Section 1, 2.b (2)).

PGM.1.3 The safety systems and safety management programs included in the SSO Program align with those systems and programs identified in the applicable Documented Safety Analysis (DOE M 426.1-1A, Chapter III, Section 1, 4.c).

PGM.1.4 Safety system oversight requirements are defined and implemented, for example, functions, responsibilities, and authorities of personnel assigned to perform safety system oversight and their interface/support of Facility Representatives are clearly defined, and SSO staffing needs are identified and there is a plan or process to ensure future staffing needs are met and maintained (DOE M 426.1-1A, Chapter III, Section 1, 2.b (3) & (4)).

PGM.1.5 Affected DOE and contractor managers understand the SSO role and relationship to Facility Representatives and the contractor's cognizant System Engineers, and provide the necessary access and support (DOE M 426.1-1A, Chapter III, Section 1, 3.d).

PGM.1.6 Qualifying Officials are assigned to sign site-specific Qualification Cards (DOE M 426.1-1A, Chapter III, Section 1, 2.b (6)).

PGM.1.7 The SSO Program contains features to verify that SSO candidates possess the required level of knowledge and/or skills to perform assessments and investigations to confirm performance of safety systems in meeting

established safety and mission requirements (DOE M 426.1-1A, Chapter III, Section 1, 2.b (5)).

Approach

Record Review: Review documentation (e.g., site technical qualification program documents, SSO Program Plan, SSO Program procedures, qualification cards and/or standards, internal memorandums, Documented Safety Analyses, etc.) which establish the SSO Program and describe its implementation to determine that the program is complete and comprehensive.

Interviews: Interview management personnel with responsibilities for implementing and executing the SSO program to determine if they are familiar with the role of SSO personnel relative to the Facility Representatives and the contractor's cognizant system engineers, if they provide adequate resources for training, qualification, future staffing, and performance of SSO personnel, and if they appropriately qualified to perform their assigned role in the SSO program. Interview qualifying officials to determine if they are familiar with their role and responsibility, they are currently qualified, and they are performing their assigned role.

Field Observation: Evaluate any process used by or directed by the Field Element Manager to determine the effectiveness of SSO Program Performance.

TRAINING AND QUALIFICATION (TQ)

OBJECTIVE

TQ.1 SSO personnel and supervisors with responsibilities for SSO personnel are appropriately trained and qualified, or are in the process of achieving qualification.

Criteria

TQ.1.1 Supervisors with responsibilities for SSO personnel maintain Senior Technical Safety Manager (STSM) qualification (DOE M 426.1-1A, Chapter III, Section 1, 2.c (1)).

TQ.1.2 Site-specific qualification standards and cards have been developed and a documented process is implemented to assure that SSO candidates meet, at a minimum, the SSO knowledge, skills, and abilities specified in the *Federal Technical Capability Manual* DDOE 426.1-1A, Chapter III, Section 1, 5.a & 5.b)

TQ.1.3 All SSO personnel have completed or are completing the General Technical Base Qualification Standard (DOE-STD-1146-2001) and one or more Functional Area Qualification Standard(s) in a technical area linked to their individual job descriptions (DOE M 426.1-1A, Chapter III, Section 1, 4.a).

TQ.1.4 All SSO personnel have completed or are completing the site-specific qualification standard associated with assigned safety systems (DOE M 426.1-1A, Chapter III, Section 1, 4.a).

TQ.1.5 SSO Supervisors have established methods to assign initial qualification dates, track progress toward qualification, and ensure retraining/requalification occurs as required for each SSO candidate in the qualification process (DOE M 426.1-1A, Chapter III, Section 1, 2.c (4) through (6)).

Approach

Record Review: Review qualification records to establish that supervisors and managers of SSO are qualified as an STSM and that SSO personnel are trained and qualified. Review qualification and requalification schedules, staffing plans, training plans, travel funding, etc. to determine that sufficient resources are provided for training, retraining, qualifying, and requalifying SSO personnel.

Interviews: Interview supervisors, training coordinators, SSO personnel, and budget personnel to establish that training and qualification plans and schedules are being executed as planned and that sufficient resources are provided to meet the schedules.

Field Observation: Observe activities associated with the qualification process, such as qualification boards, exams, walk throughs to determine that the training and qualification process is implemented and functioning effectively.

MANAGEMENT (MG)

OBJECTIVE

MG.1 SSO Supervisors effectively perform their SSO program responsibilities.

Criteria

MG.1.1 Site-specific SSO qualification standards and cards are developed (DOE M 426.1-1A, Chapter III, Section 1, 2.c (2)).

MG.1.2 Supervisors have identified and approved SSO candidate selection (DOE M 426.1-1A, Chapter III, Section 1, 2.c (3)).

MG.1.3 Supervisors of SSO personnel have established SSO personnel qualification schedules and are tracking progress (DOE M 426.1-1A, Chapter III, Section 1, 2.c (4)).

MG.1.4 Supervisors facilitate SSO qualification (e.g., ensure sufficient time and training are provided to complete qualification tasks) (DOE M 426.1-1A, Chapter III, Section 1, 2.c (5)).

MG.1.5 Supervisors ensure SSO personnel are trained and qualified to perform assigned duties (DOE M 426.1-1A, Chapter III, Section 1, 2.c (6)).

MG.1.6 SSO responsibilities are included and measured in Individual Performance Plans (DOE M 426.1-1A, Chapter III, Section 1, 2.c (7)).

MG.1.7 Ensure SSO qualifications are maintained current by training and assignments planned in Individual Development Plans (DOE M 426.1-1A, Chapter III, Section 1, 2.c (8)).

MG.1.8 SSO Supervisors periodically evaluate program effectiveness and implement corrective actions in a timely manner (DOE M 426.1-1A, Chapter III, Section 1, 2.c (9)).

Approach

Record Review: Review qualification cards, Individual Performance Plans, and other SSO program documents and procedures to establish that managers and supervisors are effectively performing their responsibilities as defined in the SSO program. Review other documentation used by supervisors to establish SSO program effectiveness and implementation of corrective actions.

Interviews: Interview supervisors and managers to establish that they are familiar with their assigned roles, they perform their assigned duties, monitor the effectiveness of the SSO program and ensure any identified corrective actions are implemented.

Field Observation: Observe any activities associated with SSO program effectiveness evaluations and/or corrective action implementation.

OVERSIGHT PERFORMANCE (OP)

OBJECTIVE

OP.1 Collectively, SSO personnel provide oversight of the Contractors' System Engineer Program.

Criteria

OP.1.1 Oversight performed by SSO personnel establishes that the contractor System Engineer Program is effectively implemented with goals, objectives, and performance measures (DOE M 426.1-1A, Chapter III, Section 1, 2.a (1)).

OP.1.2 SSO personnel maintain communication with the contractor's cognizant System Engineer (DOE M 426.1-1A, Chapter III, Section 1, 2.a (1)).

OP.1.3 SSO personnel monitor performance of the contractor's cognizant System Engineer Program (DOE M 426.1-1A, Chapter III, Section 1, 2.a (1)).

OP.1.4 SSO personnel attend selected contractor meetings with Facility Representatives and contractor personnel responsible for system performance (e.g., cognizant System Engineers, design authorities, and program managers) (DOE M 426.1-1A, Chapter III, Section 1, 2.a (3)).

Approach

Record Review: Review oversight documentation, such as SSO assessment reports, SSO walk throughs, correspondence, SSO activity records or logs, corrective action documents, etc. to establish that SSO personnel are overseeing implementation and execution of the contractor system engineer program. Review the contractor's system engineer program to determine whether there are any program weaknesses or deficiencies that have not been identified by SSO personnel.

Interviews: Interview SSO personnel, Facility Representatives, and contractor system engineers to establish the level of interface between SSO personnel and the contractor's cognizant system engineers.

Field Observation: Observe any oversight activities of the contractor's system engineer program performed by SSO personnel.

OBJECTIVE

OP.2 SSO personnel are knowledgeable and familiar with assigned safety systems and/or programs.

Criteria

OP.2.1 A qualified SSO is, in fact, knowledgeable of the system status, performance, maintenance, operations, design, and vulnerabilities of their assigned systems or programs. This is evidenced by:

- OP.2.1.1 SSO personnel regularly and routinely review periodic system health/status reports (DOE M 426.1-1A, Chapter III, Section 1, 2.a (2)).
- OP.2.1.2 SSO personnel review test results, investigation reports, root cause analyses, etc (DOE M 426.1-1A, Chapter III, Section 1, 2.a (2)).
- OP.2.1.3 SSO personnel interface with external organizations that can provide insights on performance (DOE M 426.1-1A, Chapter III, Section 1, 2.a (2)).
- OP.2.1.4 SSO personnel perform assessments, periodic evaluations of equipment configuration and material condition and safety management program implementation (DOE M 426.1-1A, Chapter III, Section 1, 2.a (3)).
- OP.2.1.5 SSO personnel evaluate the effects of aging on system equipment and components, the adequacy of work control and change control processes, and consider the appropriateness of system maintenance and surveillance activities with respect to reliable performance of safety function(s) (DOE M 426.1-1A, Chapter III, Section 1, 2.a (3)).
- OP.2.1.6 SSO personnel identify technical issues and participate actively in the resolution of the issues.

OP.2.2 Safety systems and safety management programs have established goals, objectives, and performance measures

OP.2.3 SSO personnel perform evaluations of contractor troubleshooting, investigations, root cause evaluations, and selection and implementation of corrective actions, in conjunction with Facility Representatives (DOE M 426.1-1A, Chapter III, Section 1, 2.a (4)).

OP.2.4 SSO personnel provide support to other Federal employees, as appropriate. (DOE M 426.1-1A, Chapter III, Section 1, 2.a (5))

OP.2.5 SSO personnel assess contractor compliance with relevant DOE regulations, industry standards, contract requirements, safety basis requirements, and other system requirements (DOE M 426.1-1A, Chapter III, Section 1, 2.a (6)).

OP.2.6 SSO personnel confirm configuration documentation, procedures, and other sources of controlling information are current and accurate (DOE M 426.1-1A, Chapter III, Section 1, 2.a (7)).

OP.2.7 SSO personnel report potential or emergent hazards immediately to DOE line management and Facility Representatives (DOE M 426.1-1A, Chapter III, Section 1, 2.a (8)).

OP.2.8 SSO personnel stop tasks, if required, to prevent imminent impact to the health and safety of workers and the public, to protect the environment, or to protect the facility and equipment and immediately notify the on-duty or on-call Facility Representative (DOE M 426.1-1A, Chapter III, Section 1, 2.a (8)).

OP.2.9 SSO personnel serve, when assigned, as qualifying officials in the development or revision of Functional Area Qualification Standards, mentor assigned backups, and qualify other candidates to the Functional Area Qualifications Standards needed to achieve Safety System oversight qualification (DOE M 426.1-1A, Chapter III, Section 1, 2.a (9)).

OP.2.10 SSO personnel maintain cognizance of the appropriate funding and resources to maintain and improve safety systems (DOE M 426.1-1A, Chapter III, Section 1, 2.a (10)).

OP.2.11 Methods have been established for SSO personnel to routinely communicate system/program performance information and issues with STSMs and the Field Office Manager (DOE M 426.1-1A, Chapter III, Section 1, 2.a (1)).

Approach

Record Review: Review oversight documentation, such as SSO assessment reports, SSO walk throughs, correspondence, SSO activity records or logs, corrective action documents, etc. to establish that SSO personnel are performing required oversight. Review contract requirements and their flow down through the contract to the safety systems and safety management programs to establish the effectiveness of SSO personnel oversight that the contractor complies with all requirements relative to safety systems and programs. Review a sample of the safety system health reports, safety system test reports, safety system investigation reports, safety system root cause analyses, etc. to determine the effectiveness of SSO personnel knowledge and familiarity with this information.

Interviews: Interview SSO personnel to determine their knowledge of and familiarity with assigned safety systems and safety management programs, and the reports that the contractor may generate in relation to the systems and programs.

Field Observation: Observe SSO personnel walk downs and other activities in the field to establish the level of SSO personnel knowledge and familiarity of safety systems.

Corrective Actions Resulting from an Idaho Lead
Follow-up Review of RL SSO Program
September 2005

Opportunities for Improvement:

1. **Formalize the assignment of SSO engineers. This should include formally assigning personnel as SSO engineers, establishing schedules for completion of their qualification, and tracking progress toward qualification. (MG.1.2, MG.1.3, TQ.1.5)**

   Specific Action-
   Action: Develop and approve a memorandum to SSO Engineers and candidates documenting assignments and establishing qualification completion schedules.
   Responsible Individual: Pete Garcia
   Date to be completed: Dec 2005
   Actual completion date: Nov 22, 2005

2. **Ensure that the Documented Safety Analyses establish criteria for selection of active systems important to safety as vital safety systems subject to SSO engineer oversight. (PGM.1.3)**

   Specific Action-
   Action: Update SSO Program description document to detail the process for assigning VSS.
   Responsible Individual: Mark Hahn
   Date to be completed: Nov 2005
   Actual completion date: Aug 2005

   Specific Action-
   Action: Revise SCRD for DOE-O-420.1B to include specific expectations for assigning and documenting VSS.
   Responsible Individual: Mark Hahn
   Date to be completed: Dec 2005
   Actual completion date: Mar 2006

3. **Clarify, document, and implement the expectation for SSO "stop work" authority. As expressed by the SSO Team Lead, the current RL contract with Fluor Hanford (FH) addresses "stop work" authority generally for DOE employees. This authority does not include SSO "stop work" authority for the protection of facilities and equipment. (OP.2.8)**

   Specific Action-

Action: RL considers this implemented through the FR program and the site worker "stop work" authority.
Responsible Individual: Burt Hill
Date to be completed: Dec 2005
Actual completion date: Dec 2005

4. **Implement Memorandum of Understanding (MOU) with the Pacific Northwest National Laboratory (PNNL) for oversight of PNNL vital safety systems. (PGM.1.3)**

   Specific Action-

   Action: Conduct review of MOU to determine extent of required involvement. Determine additional actions resulting from review.
   Responsible Individual: Burt Hill
   Date to be completed: Jan 2006
   Actual completion date: May 2006
   Note: MOU states "PNSO Manager may require RL support..." and includes 325 Facility SSO. RL/PNSO considered this implemented by requested from PNSO and does not include RL ownership of the VSS. Therefore no further actions are necessary.

5. **Revise the RL Hanford Federal Technical Capability Program Plan to include the SSO program. (PGM.1.1)**

   Specific Action-

   Action: Revise the RL Hanford Federal Technical Capability Program Plan to include the SSO program.
   Responsible Individual: Burt Hill
   Date to be completed: Mar 2006
   Actual completion date: New Document in Management Concurrence

RL SSO & SE Assignments, VSS listing, and Assessment Status

Facility	Sys ID	System	Class	Assigned SSO	SSO Qual Status	Assigned CSE	Date Last Assessed	Date Next Assess Note 2
324	324-HVACE	HVAC Exhaust (Zone I/II HEPA filters)	SS	Hahn, Mark R	Qualified	Gregonis, Bob A	2/05	12/07
327	327-HVACEC	HVAC Exhaust System C (cell filters)	SS	Hahn, Mark R	Qualified	Gregonis, Bob A	2/05	12/07
CSB	CSB-12	MCO Cask Receiving	SS	Nirider, Laurren T	15% cmplt	Moody, Donald A	1/04	12/07
CSB	CSB-13	Cask Servicing	SS	Nirider, Laurren T	15% cmplt	Black, Douglas M	1/04	12/07
CSB	CSB-14	MCO Tube Purge	SS	Nirider, Laurren T	15% cmplt	Black, Douglas M	1/04	12/07
CSB	CSB-15	MCO Handling Machine	SC	Nirider, Laurren T	15% cmplt	Medford, Dean W	1/04	12/07
CSB	CSB-22	MCO Sampling	SS	Nirider, Laurren T	15% cmplt	Black, Douglas M	1/04	12/07
CSB	CSB-30A	Multi Canister Overpack	SC	Nirider, Laurren T	15% cmplt	Goldmann, Louis H	1/03	12/07
CSB	CSB-6	HVAC-Operating Area	DID	Beard, Frederick D	60% cmplt	Moody, Donald A	12/05	6/08
CVDF	CVDF-13.1	General Service Helium	SS	Nirider, Laurren T	15% cmplt	Flye, Russell E	10/03	6/07
CVDF	CVDF-13.2	Safety Class Helium	SS	Nirider, Laurren T	15% cmplt	Flye, Russell E	10/03	6/07
CVDF	CVDF-20.6	Standby Electrical Power	DID	Ashley, Clifford A	Qualified	Haller, Thomas M	3/06	12/08
CVDF	CVDF-24	Fire Protection	DID	Note 1	Note 1	Flye, Russell E	3/06	12/08
CVDF	CVDF-30.2	HVAC-B	DID	Hahn, Mark R	Qualified	Flye, Russell E	3/06	12/08
CVDF	CVDF-30.3	Process Vent	DID	Hahn, Mark R	Qualified	Flye, Russell E	3/06	12/08
CVDF	CVDF-30.4	HVAC-D	DID	Hahn, Mark R	Qualified	Flye, Russell E	3/06	12/08
CVDF	CVDF-46.1	Process Water Conditioning	SS	Nirider, Laurren T	15% cmplt	Dearing, John I	10/03	6/07
CVDF	CVDF-47.1	Tempered Water-Annulus	SS	Nirider, Laurren T	15% cmplt	Dearing, John I	1/03	6/07
CVDF	CVDF-7.1	Vacuum Purge	SS	Nirider, Laurren T	15% cmplt	Flye, Russell E	10/03	6/07
CVDF	CVDF-93.2	Safety Class Instruments and Controls	SS	Ashley, Clifford A	95% cmplt	Philipp, Barbara Lee	1/03	6/07
KE	KE-24	Basin Fire Protection	DID	Note 1	Note 1	Flye, Russell E	5/04	6/06
KE	KE-70.7	Fuel Transfer System	SC	Nirider, Laurren T	15% cmplt	Hunter, James Allen	5/04	6/06
KW	KW -14A	Transfer Bay Crane	SS	Nirider, Laurren T	15% cmplt	Cho, Chongsoo Steve	5/04	6/06
KW	KW -24	Basin Fire Protection	DID	Note 1	Note 1	Flye, Russell E	5/04	6/06
KW	KW -70.3	Integrated Water Treatment	SC	Nirider, Laurren T	15% cmplt	Stanley, Patrick E	5/04	6/06
PFP	PFP-12	Electrical Power and Control	SS	Ashley, Clifford A	Qualified	Martinson, Rick L	1/05	9/06
PFP	PFP-25	HVAC	SS	Hahn, Mark R	Qualified	Silvan, Gregory R	1/05	12/06
PFP	PFP-26	Fire Protection System	SS	Note 1	Note 1	Santanna, Desi	1/05	6/06
PFP	PFP-93	MICON Distributed Control System	SS	Ashley, Clifford A	95% cmplt	Silvan, Gregory R	1/05	6/06

PFP	PFP-99A	Criticality Alarm System	SS	Nirider, Laurren T	Qualified	Kueberth, Lawrence R	4/04	9/06
2404B/C	2404B/C-FP	Fire Protection	SS	Note 1	Note 1	Moleff, Theodore	5/05	3/07
CWC	CWC-01A	Fire Protection	SS	Note 1	Note 1	Rosser, James R	5/05	3/07
LLBG	BG-DVS	Drum Venting System	SS	Ashley, Clifford A	95% cmplt	Black, Dale G	12/05	9/08
T-Plant	T-C-HV	HVAC & Confinement Ventilation	SS	Beard, Frederick D	60% cmplt	Schoepflin, Daniel E	11/05	9/07
T-Plant	T-T-FP	Fire Protection	SS	Note 1	Note 1	Conners, Daniel A	5/05	3/07
T-Plant	T-T-HV	HVAC & Confinement Ventilation	SS	Beard, Frederick D	60% cmplt	Schoepflin, Daniel E	11/05	9/07
WESF	WESF-C25E	K-1 HVAC Exhaust	GS	Hahn, Mark R	Qualified	Davis, Scott J	11/05	9/08
WESF	WESF-C25G	K-3 HVAC Exhaust	GS	Hahn, Mark R	Qualified	Davis, Scott J	11/05	9/08
WESF	WESF-C25K	K-3 HEPA Filters	GS	Hahn, Mark R	Qualified	Davis, Scott J	11/05	9/08
WESF	WESF-C26B	225B Fire Suppression	GS	Note 1	Note 1	Davis, Scott J	5/05	9/08
WESF	WESF-C96A	225B Area Radiation Monitors	SS	Ashley, Clifford A	95% cmplt	Davis, Scott J	12/05	6/08
WRAP	WRAP-102	Fire Protection	GS	Note 1	Note 1	Moleff, Theodore	5/05	3/07
WRAP	WRAP-111	HVAC	SS	Beard, Frederick D	60% cmplt	Dosramos, Eduardo V	11/05	9/07

Notes:

1. Currently RL does not have a fire protection engineer on staff. When time critical or serious issues come up RL uses the services of Craig Christenson of ORP. RL is in the process of hiring a fire protection engineer. A job offer has been made and the expectation is that RL will have a fire protection engineer by June or July, 2006. Upon starting work at RL the fire protection engineer will enter the TQP and SSO training and qualification program.

2. The next assessment date is determined by a priority ranking evaluation that takes into account months since last assessment, prior issues, system condition, changes in DSA, and remaining life.